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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,274	07/13/2001	Clifford Theodore Papsdorf	8609	2737

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EXAMINER

TAWFIK, SAMEH

ART UNIT	PAPER NUMBER
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3721

DATE MAILED: 05/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/905,274		PAPSDORF, CLIFFORD THEODORE	
	Examiner		Art Unit	
	Sameh H. Tawfik		3721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the pushable engagement" in lines 8 and 9. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-6, 8, 13-19, 21-23, and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Levers et al. (3,800,676).

Levers discloses method and apparatus for forming pleatable web having a mutually orthogonal machine direction, a cross machine direction and a Z-direction, see for example (Fig. 1) the apparatus comprising a first series of elongate spaced protuberances converging in the cross machine direction (Fig. 1; via upper rollers 24); a second series of elongate spaced protuberances converging in the machine direction (Fig. 1; via lower rollers 24), wherein the first series of protuberances and the second series of protuberances interleave in the Z-direction (Fig.

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1); and the first series and the second series of interleaved protuberances being capable of folding a pleatable web into a generally pleated pattern of machine direction pleats upon "the pushable" engagement of the web relative to the first and second series of protuberances (Figs. 1; via third set of rolls 24 being intermeshed to push the paper between the grooves; column 3, lines 51-53; via flexing device 22).

Regarding claim 2: the apparatus has a machine direction inlet to the first and second series of elongate spaced protuberances and the apparatus has a machine direction outlet from the first and second series of elongate spaced protuberances wherein the web maintains contact with the first series and the second series of interleaved protuberances from the inlet to the outlet (Fig. 1, note that the web is continuous web).

Regarding claims 4 and 16: a converging tunnel (Fig. 1, via 28) disposed downstream in the machine direction of the first and second series of interleaved protuberances (24) to receive the web and wherein the pleated web is constrained by the converging tunnel to maintain the pleated pattern when the web is within the converging tunnel (Fig. 1 and column 5, lines 41-45).

Regarding claims 5 and 15: the converging tunnel comprises an arcuate cavity for receiving the web (Fig. 1, via the cone shape at the front of element 28).

Regarding claims 6, 18, and 22: a drive roll for pushing the pleatable web into the interleaved protuberances (Fig. 1; via transfer roller device prior to the dryer 18; column 3, lines 4 and 5).

Regarding claims 8 and 19: a heater for heating the pleated web (Fig. 1, via heated chamber in dryer 18 and column 3, lines 13-15).

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Regarding claim 13: the first series of protuberances and the second series of protuberances are spaced apart in the cross machine direction (Fig. 1).

Regarding claim 26: wherein the arcuate cavity has a radius being decreasable in the machine direction (Fig. 1, via the cone shape at the front of element 28).

Regarding claim 23: the pleatable web has a first side and a second side opposed thereto, the first series of spaced protuberances (via upper rollers 24) contacting the first side and the second series of spaced protuberances (via lower rollers 24) contacting the second side when the pleatable web contacts the web pleating apparatus (Fig. 1).

Regarding claim 27: wherein the arcuate cavity has a substantially uniform radius (Fig. 1, via the cone shape at the front of element 28).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levers et al. (3,800,676).

Levers does not specifically disclose that the converging elongate spaced protuberances are blades. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have substituted Levers's protuberances rollers 24 by having protuberances blades, as a matter of engineering design choice, since the examiner takes an official notice that the mentioned protuberances blades are old, well known, and available in the

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art to be used in web pleating apparatus, see for example U.S. patent Tipper (3,348,458) Figs. 16-19.

Regarding claim 7: Levers discloses that the first and second spaced protuberances have a first coefficient of friction and the drive roll has a second coefficient of friction (note that some frictions should be caused as a result of coupling rollers). Levers, does not specifically disclose that the second coefficient of friction is greater than the first coefficient of friction. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Levers's web pleating apparatus by having the second coefficient of friction of the drive roll is greater than the first coefficient of friction of the first and second spaced protuberances, as a matter of engineering design choice, since the examiner takes ~~an~~ ^{an} official notice that ~~it~~ ^{there is} has to be differences between frictions in order to keep transferring and driving the web through the apparatus is old, well known, and available in the art.

Regarding claim 9: Levers does not disclose a cooler for cooling the web downstream from the heater. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Levers's web pleating apparatus by having a cooler for cooling the web downstream from the heater, as a matter of engineering design choice, since the examiner takes an official notice that using cooler for cooling the web downstream from the heater is old, well known, and available in the art.

Claims 10-12, 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levers et al. (3,800,676) in view of Benedict (2,314,757).

Levers does not disclose that a scoring device prior to the pleatable station wherein the scoring device comprises first and second axially rotatable rolls and maintaining a fixed gap

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therebetween. However, Benedict discloses a similar web pleating apparatus comprising a scoring device comprises a first and second axially rotatable rolls (Fig. 1, via rollers 15 and 16) and maintaining a fixed gap therebetween (Fig. 1, note it has to be gap between rollers in order to feed the web therebetween).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Levers's web pleating apparatus by having a scoring device comprising a first and second axially rotatable rolls and maintaining a fixed gap therebetween, as suggested by Benedict, in order to reduce friction and danger of breakage of the web (column 1, lines 11-13).

Regarding claim 20: Levers discloses a filter comprises a pleated web (Fig. 1, via 12), pushably transporting the web relative to a first and second series of interleaved converging elongate spaced protuberances (Fig. 1, via third set of rolls 24; via by pressing against each other to fold the web and conveying the web) and folding the web with the interleaved protuberances where in the interleaved converging protuberances pleat the pleatable web (Fig. 1, via flexing device 22). Levers does not disclose that scoring the web. However, Benedict discloses a similar web pleating apparatus comprising a scoring device (Fig. 1, via rollers 15 and 16).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Levers's web pleating apparatus by having a scoring device, as suggested by Benedict, in order to reduce friction and danger of breakage of the web (column 1, lines 11-13).

Response to Arguments

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Applicant's arguments filed 4/6/2004 have been fully considered but they are not persuasive.

Applicant argue in page 8 of the arguments that Levers's reference does not disclose elongate spaced protuberances. The examiner still believes that Levers's reference discloses elongated rolls 24; note that examiner interoperate elongate as length wise regardless of it is patterned or not.

Applicant further argue in page 9 of the arguments that Levers's reference is not capable of folding a pleatable web. The examiner believes Levers's reference folds the pleatable web, see for example Fig. 1, in order to come up with the filter material the web been folded via rolls 24.

Applicant argue that Levers fails to disclose first and second elongate spaced protuberance each converging in the cross machine direction and interleaving in the Z-direction. The examiner as set forth in the action believes that Levers's reference discloses first and second elongate spaced protuberance each converging in the cross machine direction and interleaving in the Z-direction; via upper and lower sets of rolls 24.

Applicant further argue in page 10 of the arguments that Levers pulling the web material which will cause a high frictional force to the web, but applicant pushes the web through a pleating apparatus which reducing the strain in the web. The examiner believes that Levers reference reads in the claim language as Levers discloses rollers 24 pressing against each other and pushing the web in between them to fold the web and conveying the web at the mean while, which could be consider as pushing the web in two different directions the first in Y direction to fold the web and the second in X direction to convey the web.

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Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameh H. Tawfik whose telephone number is (703) 308-2809. The examiner can normally be reached on Tuesday - Friday from 8:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi Rada can be reached on (703) 308-2187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST.


EUGENE KIM
PRIMARY EXAMINER